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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,070	07/17/2001	Felix Missel	38146	1271

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EXAMINER	
LAM, DANIEL K	

ART UNIT	PAPER NUMBER
2667	2

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/682,070	MISSEL, FELIX	
	Examiner	Art Unit	
	Daniel K Lam	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

   a) On page 4, paragraph 0037, "table.3" should be "table" instead.

   b) In claim 1, line 3, the word "mircro" is misspelled. In lines 8 and 29, "plurlarity'is misspelled. In line 14, there is an extra "the".

   c) In claim 8, line 4, there is an extra semi-colon. In line 28, there is an extra period.

   Corrections are required.

Claim Objections

2. Claims 4 and 6 are objected to because of the following informalities:

   a) In claim 4, the limitations, "sender node address, transmitter node address, receiver node address, destination nodes address" already included in claim 1. They should be removed.

   b) Claim 6 indicates the serial device is a DVC that is not specified nor defined in the specification.

   Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Pat. No. 5,926,101 issued to Dasgupta in view of the paper, titled, "A Routing Protocol for Packet Radio Networks", written by Murthy et al.

Regarding claims 1 and 8, Dasgupta discloses a method and a system for managing the routing of a multi-hop network based on low performance micro-controllers, comprising:

a) Having a node with a micro-controller means, a RF transceiver means, data storage means, a network interface means with an input buffer, output buffer and auxiliary buffer and a serial device communication means. See fig. 1 references 10 and 30, and col. 3, lines 15 to 52.

b) Having the data storage means store a plurality of node addresses and configuration data. See fig. 1 references 14, 34, and RAM.

c) Having a plurality of serial devices. See fig. 1 references 42(SERIAL PORT).

d) Processing a message to a node from the serial device to network by receiving the message from the serial device, storing the message in the input buffer, copying the message to the output buffer, and transmitting the message to the network. Processing a message to a node from a serial device to the same serial device by receiving the message from the serial device, storing the message in the input buffer, copying the message is copied to the output buffer and transmitting the message to the serial device. Processing a message to a node from the network to a serial by receiving the message from the input buffer, storing the message the auxiliary buffer, copying the message to the output buffer, and transmitting the message to the serial device. And processing a message to a node from the network to the network by receiving the message from the input buffer, storing the message the auxiliary buffer, copying the message to the output buffer, and transmitting the message to the network. See fig. 2 references 62 to 76, and col. 3, line 64 to col. 4, line 10, and lines 23 to 29.

e) Processing a message by having a sender node send the message, having a plurality of nodes receive and re-transmit the message until the destination node receives the message. See col. 4, line 52 to col. 5, line 2.

f) Processing a message from the network to a node by comparing the node's address with the destination node address; if the address does not match, the message is a retransmission message and the node searches for the next node and retransmits the message, if the address matches, the message is tested to determine if the message is a network command, if the message is a network command, the network command will be executed by the node, if the message is not a network command, the message is

sent to the serial device, if an acknowledgement is required the node sends a request response message to the serial device, after the node receives the acknowledgement from serial device the node sends an acknowledgement to the sender node. See fig. 7 references 150, 160, 162, and 164, and col. 6, lines 17 to 24, and lines 30 to 35.

Furthermore, Dasgupta discloses the messages contain a header at the beginning of the message with sender and destination node addresses (see fig. 4 references 106 and ADDRESS, and col. 5, lines 33 to 36). However, he does not disclose the header contains transmitter and receiver node addresses.

Murthy et al. discloses a router message exchange format among nodes having a plurality of addresses in the header for storing transmitter and receiver node addresses (see page 89, section 2.3, Information Exchange among Nodes, lines 7 to 11).

Therefore, it would have been obvious to those having ordinary skill in the art, at the time of invention, to incorporate intermediate node addresses, such as the transmitter and receiver addresses, into the header so that the address of the intermediate node can be compared to the destination address to make a complete packet routing decisions in a system that connects a network of low cost, minimal resource nodes wirelessly as taught by Dasgupta (see col. 2, lines 15 to 20, and lines 39 to 41).

Regarding claims 2 and 9, in addition to disclose the limitations regarding claims 1 and 8, Dasgupta further discloses the micro-controller means is an 8-bit micro-controller (see fig. 1 references 12, 32, and MPU, and col. 3, lines 25 to 29).

Regarding claims 3 and 10, in addition to disclose the limitations regarding claims 1 and 8, Dasgupta further discloses the network interface means consists of an input buffer and an output buffer located internal on the micro-controller means (see fig. 1 references 14, 34, and RAM).

Regarding claims 4 and 11, in addition to disclose the limitations regarding claims 1 and 8, Dasgupta further discloses the header contains length, frame tag, data string and cyclic redundancy check fields. See fig 4 references 102 (FLAG), 110(DATA), and 112(CHECKSUM).

Regarding claims 5, 6, 12, and 13, in addition to disclose the limitations regarding claims 1 and 8, Dasgupta further discloses the serial device is a computer or a DVC. See fig. 1 references 42 (SERIAL PORT), and 44(COMPUTER).

Regarding claims 7 and 14, in addition to disclose the limitation regarding claim 1 and 8, Murthy et al. further discloses the steps including setting up an address table automatically by a node send a message to all of the nodes on the network, having the nodes send acknowledge messages to the sender node, having the sender node sort the nodes by the nodes' addresses and loading the addresses into an address table, then the sender sends messages to each node in the network to include the sender node's address in the other node's address tables (see page 89, section 2.4, Routing Table Updating, lines 1 to 16).

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel K. Lam whose telephone number is (703) 305-8605. The examiner can normally be reached on Monday-Friday from 8:30 AM to 4:30 PM.

   If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for this Group is (703) 872-9314.

   Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

DKL
January 8, 2004

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
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